INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2004/004458

A. CLASSIFICATION OF SUBJECT MATTER
Int.Cl[7] C12N15/09

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
Int.Cl[7] C12N15/00-90

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
JICST FILE(JOIS), EUROPAT(QUESTEL), MEDLINE/BIOSIS/WPIDS(STN)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	H. OKAYAMA, et al., High-Efficiency Cloning of Full-Length cDNA, Molecular and Cellular Biology, 1982, 2(2), p.161-70	1-6,8-10
X	S.C. PRUITT, Expressin vectors permitting cDNA cloning and enrichment for specific sequences by hybridization/seleciton, Gene, 1988, 66, p.121-34	1-6,8-10
A	S. KATO, et al., Construction of a human full-length cDNA bank, Gene, 1994, 150, p.243-50	1-16
A	JP 06-153953 A (The Kanagawa Academy of Science), 03 June, 1994 (03.06.94), & WO 1994/008001 A1 & EP 0625572 A1 & US 5597713 A	1-16

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
26 April, 2004 (26.04.04)	18 May, 2004 (18.05.04)
Name and mailing address of the ISA/ Japanese Patent Office	Authorized officer
Facsimile No.	

ATTACHMENT D

INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2004/004458

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5962272 A (CLONTECH LABORATORIES, INC.), 05 October, 1999 (05.10.99), & WO 1997/024455 A2 & JP 2000-502905 A	1-16
A	WO 2001/004286 A1 (Helix Research Institute), 18 January, 2001 (18.01.01), & EP 1195434 A1	1-16
A	US 6022715 A (GENSET, S.A.), 08 February, 2000 (08.02.00), & WO 1996/034981 A2 & JP 11-510364 A	1-16
A	JP 2002-253237 A (The Institute of Physical and Chemical Research), 10 September, 2002 (10.09.02), & US 2002/0106666 A1 & EP 1197552 A2	1-16
A	J. EDWARDS, et al., Oligodeoxyribonucleotide ligation to single-stranded cDNAs: a new tool for cloning 5′ ends of mRNAs and for constructing cDNA libraries by in vitro amplification, Nucleic Acids Research, 1991, 19(19), p.5227-32	1-16
A	K. MARUYAMA, et al., Oligo-capping: a simple method to replace the cap structure of eukaryotic mRNAs with oligoribonucleotides, Gene, 1994, 138, p.171-4	1-16
A	I. EDERY, et al., An Efficient Strategy to Isolate Full-Length cDNAs Based on an mRNA Cap Retention Procedure (CAPture), Molecular and Cellular Biology, 1995, 15(6), p.3363-71	1-16
A	P. CARNINCI, et al., High-Efficiency Full-Length cDNA Cloning by Biotinylated CAP Trapper, GENOMICS, 1996, 37, p.327-36	1-16
A	Y. SUZUKI, et al., Construction and characterization of a full length-enriched and a 5′-end-enriched cDNA library, Gene, 1997, 200, p.149-56	1-16
A	S. SEKINE, et al., Synthesis of full-length cDNA using DNA-capped mRNA, Nucleic Acids Symposium Series, 1993, No.29, p.143-4	1-16
A	Sumio KANNO, "Kanzencho cDNA Gijutsu", BIO INDUSTRY, 1999, 16(11), p.19-26	1-16

Claims 1 to 16

Considering that the inventions according to claims 1 to 16 relate to methods of synthesizing a cDNA not only from an mRNA having the cap structure but also from an mRNA free from the cap structure (for example, an mRNA lacking the 5'-end), it is unknown how to achieve the synthesis of a full-length cDNA at a high ratio, i.e., how to obtain a full-length cDNA at a high ratio compared with, for example, the oligo-capping method reported in the following documents. Such being the case, it does not appear that the inventions according to the above claims are fully supported by the description or disclosed therein in a manner sufficiently clear and complete for the invention to be carried out by a person skilled in the art.

1. K. MARUYAMA, et al., Oligo-capping: a simple method to replace the cap structure of eukaryotic mRNAs with oligoribonucleotides, Gene, 1994, 138, p.171-4
2. S. KATO, et al., Construction of a human full-length cDNA bank, Gene, 1994, 150, p.243-50
3. Y. SUZUKI, et al., Construction and characterization of a full length-enriched and a 5'-end-enriched cDNA library, Gene, 1997, 200, p.149-56